

with secondary slow axis 426. In a preferred embodiment, the stress applying parts of second PM fiber 414 each fall on the secondary slow axis of pigtail pair 500. Also, second PM fiber 414 is aligned such that its stress applying parts fall on an axis having an angle of

B2

cont.

approximately a 90° angle with respect to the secondary slow axis 426, as indicated by α .

In the Claims

Kindly amend claim 1 as follows:

1. (Amended) A method for improving the extinction ratio of a grouping of polarization maintaining (PM) fibers comprising:

providing a plurality of PM fibers, said PM fibers each having corresponding principal axes;

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disposing said plurality of PM fibers together as a grouping, said grouping having corresponding secondary axes; and

aligning each said plurality of PM fibers such that said corresponding principal axes of each said plurality of said PM fibers and said secondary axes of said grouping intersect at a predetermined angle while

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cont maintaining distinct optical transmission paths in each of said fibers in said grouping.

Kindly amend claim 8 as follows:

8.(Amended) A apparatus which improves the extinction ratio of a grouping of polarization maintaining (PM) fibers comprising:

a plurality of PM fibers, said PM fibers each having

B4 corresponding principal axes;

said plurality of PM fibers disposed together as a grouping,

said grouping having corresponding secondary axes; and

whereby each said plurality of PM fibers is aligned such that said corresponding principal axes of each said plurality of said PM fibers and said secondary axes of said grouping intersect at a predetermined angle while maintaining distinct optical transmission paths in each of said fibers in said grouping.

Kindly cancel claims 5 and 12 without prejudice.

Kindly amend claims 9-11, 13, and 14 as follows:

9.(Amended) The apparatus of claim 8, wherein at least one of said predetermined angles is approximately 0° .

B5 10.(Amended) The apparatus of claim 8, wherein at least one of said predetermined angles is approximately 90° .

11.(Amended) The apparatus of claim 8, wherein said PM fiber comprises a PANDA fiber.

B6 13.(Amended) The apparatus of claim 8, wherein said PM fiber comprises a BOWTIE fiber.

14.(Amended) The apparatus of claim 8, wherein said PM fiber comprises a PM fiber using SAP.

Kindly add new claims 15-35 as follows:

15.(New) A apparatus which improves the extinction ratio of a grouping of polarization maintaining (PM) fibers comprising:

B7 a plurality of polarization maintaining fiber means, said fiber means each having corresponding principal axes;

said plurality of fiber means disposed together as a grouping, said grouping having corresponding secondary axes; and

whereby each said plurality of fiber means is aligned such that said corresponding principal axes of each said plurality of said fiber means and said secondary axes of said grouping intersect at a predetermined angle while maintaining distinct optical transmission paths in each of said fibers means in said grouping.

16.(New) The apparatus of claim 15, wherein at least one of said predetermined angles is approximately 0° .

17.(New) The apparatus of claim 15, wherein at least one of said predetermined angles is approximately 90° .

18.(New) The apparatus of claim 15, wherein said fiber means comprises a PANDA fiber.

19.(New) The apparatus of claim 15, wherein said fiber means comprises a BOWTIE fiber.

20.(New) The apparatus of claim 15, wherein said fiber means comprises a PM fiber using SAP.

21.(New) A polarization beam splitter/combiner comprising:

a body having a single mode fiber and a pigtail pair each optically coupled to said body;

said pigtail pair comprising a plurality of polarization maintaining (PM) fibers,
said PM fibers each having corresponding principal axes;
said plurality of PM fibers disposed together as a grouping, said grouping having
corresponding secondary axes; and
whereby each said plurality of PM fibers is aligned such that said corresponding
principal axes of each said plurality of said PM fibers and said secondary axes of
said grouping intersect at a predetermined angle while maintaining distinct optical
transmission paths in each of said fibers in said grouping.

22.(New) The polarization beam splitter/combiner of claim 22, wherein said
pigtail pair is disposed within a ferrule and said plurality of PM fibers are affixed
with epoxy.

23.(New) The polarization beam splitter/combiner of claim 22, wherein said
alignment of said axes is maintained throughout the curing process of said epoxy.

24.(New) The polarization beam splitter/combiner of claim 23, wherein the
polarization direction of light traveling through each of said PM fibers remains
unaffected throughout said curing process.

25.(New) The apparatus of claim 24, wherein at least one of said
predetermined angles is approximately 0°.

- 26.(New) The apparatus of claim 24, wherein at least one of said predetermined angles is approximately 90°.
- 27.(New) The apparatus of claim 24, wherein said PM fiber comprises a PANDA fiber.
- 28.(New) The apparatus of claim 24, wherein said PM fiber comprises a BOWTIE fiber.
- 29.(New) The apparatus of claim 24, wherein said PM fiber comprises a PM fiber using stress applying parts (SAP).
- 30.(New) The apparatus of claim 8 or 15, wherein said grouping is disposed within a ferrule and said plurality of PM fibers are affixed with epoxy.
- 31.(New) The apparatus of claim 8 or 15, wherein said alignment of said axes is maintained throughout the curing process of said epoxy.
- 32.(New) The apparatus of claim 8 or 15, wherein the polarization direction of light traveling through each of said PM fibers remains unaffected throughout said curing process.